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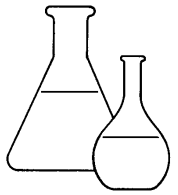
Soil Testing

Agriculture and Natural Resources Fact Sheet #508 (Updated 11/99)



Standard soil tests give information on nutrient levels and some chemical characteristics and are helpful for pinpointing nutrient and liming needs of your soil. Knowing exactly what your soil needs helps prevent over applying fertilizer. This saves you money and protects surface and groundwater quality.

General Soil Sampling Instructions

It is best to call the lab you intend to use for an order form and specific instructions, however, the following will usually suffice.

Using a stainless steel or wooden spoon, remove the top 2 or 3 inches of soil. Scoop about one quart of soil from the exposed area, being careful not to include any of the scraped soil or other material. A composite sample may be made by thoroughly mixing soil from several places in a field and then taking the sample from this mixture. Place the soil in a sealable plastic bag and label it with your name, date, sample location and type of planting you plan to do (if you are requesting a fertilizing recommendation for pasture grass, type of vegetables, etc.). Attach a completed order form and payment to the sample bag before wrapping or boxing it for shipping.

For greater detail on how to take a soil sample request a copy of How to Take a Soil Sample...and Why from OSU Extension Service. (See contact information in Soil Testing Resources section.)

Alternative Fertility Requirements

Results of standard soil tests do not always translate easily into recommendations for using organic fertilizers. In addition to managing nutrient levels, organic growing methods rely on practices such as crop rotations, green manure and compost applications, and the use of cover crops and microbial inoculants. As a result, data on biological soil health as well as mineral composition is necessary for managing soil fertility. Some soil tests offer data on biological parameters such as organic matter content and microbial activity.

A Few Tips

- Be sure you understand what units of measure, parts per million (ppm) or pounds per acre the soil lab you choose uses.
- Results from soil tests do not always translate easily into actions to take. Ask your soil testing lab if they offer advice or interpretation of results.
- Be careful with home soil testing kits. Often these kits are not very sophisticated and may only offer information on relative levels of nutrients or acidity. The chemicals in home tests have a limited life span and can be inactive by the time you use them.

Soil Testing Resources

Oregon State University Extension and Experiment Station Communications (541) 737-7654; Web: http://eesc.orst.edu/agcomwebfile/EdMat/EdmatIndexAg.html (go to Soil and Water).

Publications

Appropriate Technology Transfer to Rural Areas (ATTRA), Fayetteville, AR.

Diver, S. 1998. *Alternative Soil Testing Laboratories*.

Sullivan, P. 1999. *Sustainable Soil Management: Soil System Guide*

Gempler's Soil Management Guide. 1998. Booklet in Gempler's IPM Catalog (see below).

USDA Natural Resources Conservation Service Soil Quality Institute, Soil Quality Information Sheets http://www.statlab.iastate.edu/survey/SQI/sqiinfo.shtml

Testing Supplies

Gempler's
100 Countryside Dr; PO Box 270, Belleville, WI 53508; (800) 382-8473;
web: http://www.gemplers.com

Peaceful Valley Farm Supply
PO Box 2209, Grass Valley, CA 95945
(916) 272-4769; web: http://www.groworganic.com

Soil Testing Labs

The following list of soil testing labs is not exhaustive and you are encouraged to seek out others. All price information is subject to change without notice. Call before sending samples to verify costs and parameters, and to ask questions you may have.

N = nitrogen, P = phosphorpous, K = potassium, B = boron, Ca = calcium, Fe = iron, Cu = copper, Mg = magnesium, Zn = zinc, pH = acidity, OM = organic matter, CEC = cation exchange capacity

Soil Testing Labs

Name and Address	Individual Macro-nutrients (N, P, K, B, Ca)	Micro-nutrients (Fe, Cu, Mg, Zn)	pH	Lime Advice	Nutrient Test Packages	Recommendations Interpretation
A & L Western Agricultural Laboratories Inc 10220 SW Nimbus Ave, Bldg K9 Portland, OR 97223 (503) 968-9225	N $6 P $4 B $5 Ca $4	$3.50 per element	$7	$12	Ranges from $12 to $30	Yes
Agri-Check, Inc. 323 Sixth Street; PO Box 1350 Umatilla, OR 97882 (541) 922-4894 or (800) 537-1129	$6 each	$6 each	$6	$7.50	From $27 to $44	$6
Cascade Analytical 3019 GS Center Road Wenatchee, WA 98801 (509) 662-1888; (800) 545-4206 Email: cascade@nwi.net http://www.cascadeanalytical.com	N $8 P $6 K $5 B $8 Ca $5	$5	$8	$8	$49.50 N,P, K, pH, soluble salts, Ca, Mg, Fe, Zn, B, lime, OM	Yes
Columbia Analytical Services, Inc. 1317 S 13th Ave; P.O. Box 479 Kelso, WA 98626 (800) 695-7222 E-mail: contact@caslab.com http://www.caslab.com/	N $22 P $25 K $30 B $30 Ca $30	—	$15	—	$35 N,P, K, pH	No
KUO Testing Labs 337 S First Ave Othello, WA 99344 (509) 488-0112 Email: eugenekuo@kuotesting.com http://kuotesting.com	$6 each	$6 each	$6	$21	$43 pH, SMP Buffer, P, K, Ca, Mg, N, B, Zn, Mn, Cu, Fe	Yes $11
Soil and Plant Lab 352 Mathew St. Santa Clara, CA 95050 (408) 727-0330	—	—	—	—	$58 includes pH, salinity, sodium, and available major nutrients; $79 includes the above plus micronutrients	—

N = nitrogen, P = phosphorpous, K = potassium, B = boron, Ca = calcium, Fe = iron, Cu = copper, Mg = magnesium, Zn = zinc, pH = acidity, OM = organic matter, CEC = cation exchange capacity

Soil Testing Labs (continued)

Name and Address	Individual Macro-nutrients (N, P, K, B, Ca)	Micro-nutrients (Fe, Cu, Mg, Zn)	pH	Lime Advice	Nutrient Test Packages	Recommendations Interpretation
Soil Foodweb Inc 980 NW Circle Blvd Corvallis, OR 97330 (541) 752-5066 Email: info@soilfoodweb.com; http://www.soilfoodweb.com	—	—	—	—	—	$50 per hour Free if payment sent with sample.
Soiltest Farm Consultants Inc 2925 Wapato Dr Moses Lake, WA 98837 (800) 764-1622	N $6 P $6 K $6 B $6 Ca $6	$6	$28 + soluble salts, CEC, ESP, exchangeable sodium	$7	$26 N,P, K, pH, Ca, Mg, B, lime (specify west of Cascades)	Yes
Twiss Analytical Lab 26280 Twelve Tree Lane, Ste C Poulsbo, WA 98370 (360) 779-5141	N $18 P $15 K $12 B $15 Ca $12	$25	$10	$15	$35 N,P, K $38 P, K, pH, lime $20 pH, lime, OM	Yes
University of Massachusetts Soil Testing Laboratory West Experiment Station Amherst, MA 01003-8020 (413) 545-2311 E-mail: soiltest@umext.umass.edu; http://www-unix.oit.umass.edu/~soiltest	N $10	—	$3 $5 w/buffer pH	—	$8 includes pH, buffer pH, P,K, Ca, Mg, Fe, Mn, Zn, Cu, B, Heavy metals, cation exchange capacity, extractable Al, and percent base saturation. $12 includes all of the above with organic matter as well.	Yes

Alternate formats available upon request. 206-205-3100 (TTY 711)

No endorsement is intended of any businesses listed in this fact sheet, nor is criticism of unnamed businesses implied.

Written by Sylvia Kantor, WSU Cooperative Extension King County, 1999. Reviewed by: Jim Kropf, WSU Cooperative Extension and Chuck Natsuhara, NRCS.

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